

Notice of Allowability

Application No.

10/529,148

Examiner

Chukwuma O. Nwaonicha

Applicant(s)

MOLLER ET AL.

Art Unit

1621

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 25 July 2007.
2. ☒ The allowed claim(s) is/are 9, 11-17, 19-25, 27 and 28 (now renumbered 1-17, respectively).
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) ☒ All b) ☐ Some* c) ☐ None of the:
 1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
 5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
 - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. ☒ Notice of References Cited (PTO-892)
2. ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. ☐ Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date _____
4. ☐ Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. ☐ Notice of Informal Patent Application
6. ☐ Interview Summary (PTO-413),
Paper No./Mail Date _____
7. ☒ Examiner's Amendment/Comment
8. ☒ Examiner's Statement of Reasons for Allowance
9. ☐ Other _____

DETAILED ACTION

Current Status

1. Claims 9, 11-17, 19-25, 27 and 28 are pending in the application.
2. This action is responsive to Applicants' amendment of 25 July 2007.
3. Receipt and entry of Applicants' amendment is acknowledged.
4. The 112 rejection has been withdrawn following applicants' amendment.

Examiner's Amendment

An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Michael Sanzo on 8/17/07.

The Application has been amended as follows:

The dependency of claims 19 has changed from claim 18 to claim 17.

Allowed Claims

Claims 9, 11-17, 19-25, 27 and 28 are allowable over the prior art of record.

Reason For Allowance

The following is an examiner's statement of reasons for allowance: A search of the prior art failed to uncover any reference that anticipates or renders obvious a process for obtaining a purified gas by removing polysulfanes from crude gas formed during the production of hydrogen sulfide, wherein said crude gas comprises greater

Art Unit: 1621

than 80% by volume of H_2S and 100-2000 vpm of polysulfanes of the formula H_2S_n , wherein $n=2-8$, said process comprising: (a) passing said crude gas through a wash system where said crude gas is brought into contact with a wash solution comprising water or methanol; and (b) collecting said purified gas from the wash solution of step (a) as claimed by applicants.

The closest prior arts are Deutsche et al., {GB 1 268 842}. Deutsche et al. teach a process for working up the products in a process for the production of an alkyl mercaptan by reacting the corresponding primary alkyl alcohol with hydrogen sulfide under pressure in the presence of a catalyst, wherein the gas mixture accumulating after the reaction and consisting of hydrogen sulfide, unreacted alcohol, alkyl mercaptan, dialkyl sulfide, water, dialkyl ether and inert gases is separated in a separation column in the form of a packed column or plate column into volatile and non-volatile fractions under a pressure of at most 10 atmosphere and at a temperature of from 10 m $140^{\circ}C$, after which the entrained non-volatile fractions, primarily alkyl mercaptan and dialkyl sulfide, are washed out of the said volatile fractions by means of a washing agents (water and aliphatic alcohol) flowing in counter current to the said volatile fraction in the upper part of the separation column. See the claims on page 4.

Applicants process for purifying gas by removing polysulfanes from crude gas formed during the production of hydrogen sulfide differ from Deutsche et al. process in that applicants claim a process that employs water, methanol, aqueous solution or methanolic solution while Deutsche et al. teach a process for purifying alkyl mercaptan from the reacting of primary alkyl alcohol with hydrogen sulfide by removing hydrogen

sulfide, unreacted alcohol, alkyl mercaptan, dialkyl sulfide, water, dialkyl ether and inert gases with water and alcohol. The difference is clear because applicants' claim a process that removes polysulfanes from crude gas. On the other hand, Deutsche et al. teach a process that removes hydrogen sulfide, unreacted alcohol, alkyl mercaptan, dialkyl sulfide, water, dialkyl ether and inert gases. This difference is not readily apparent and would not have been suggested to one of ordinary skill.

All claims (9, 11-17, 19-25, 27 and 28) are allowed.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance".

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chukwuma O. Nwaonicha whose telephone number is 571-272-2908. The examiner can normally be reached on Monday thru Friday, 8:30am to 5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne (Bonnie) Eyler can be reached on 571-272-0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Art Unit: 1621

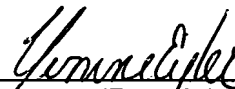
Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Chukwuma O. Nwaonicha, Ph.D.

Patent Examiner

Art Unit: 1621



Yvonne (Bonnie) Eyler
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